

# AMP1142 SOLID STATE HIGH POWER AMPLIFIER

## FEATURES

Class AB linear LDMOS design  
 Instantaneous wide bandwidth  
 Suitable for all single channel modulation standards  
 Built-in protection circuits  
 High reliability and ruggedness



## ELECTRICAL SPECIFICATIONS

Parameter	Specification	Notes
Operating Frequency Range	30 - 88 MHz	
Power Output	250 Watt Typ	CW
Power Output @ P1dB GCP	225 Watt Min	
Power Gain	54 dB Typ	
Power Gain Flatness with Open loop	2.0 dB p-p Max	Constant input power
Input / Output Return Loss	-12 dB Max	Relative to 50 Ohm
2-Tone Intermodulation (IMD)	-26 dBc Typ	44 dBm/Tone, $\Delta = 1\text{MHz}$
Harmonics 2 <sup>nd</sup> / 3 <sup>rd</sup>	-25 dBc/ -15 dBc Typ	
Non-Harmonics Spurious	-60 dBc Max	
Noise Figure	10 dB Typ	
Operating Voltage	50 VDC Nom	
Current Consumption	15 Amp Max	At rated Pout
Input Power Protection	+5 dBm Max	<10 Sec without damage
Load VSWR Protection	2.5 : 1	Load VSWR shutdown

## ENVIRONMENTAL CHARACTERISTICS

Parameter	Specification	Notes
Operating Case Temperature	-20° to +70 °C	Temp Shutdown @ >85°C
Storage Temperature	-40° to +85 °C	
Relative Humidity	5 to 95 %	Non-condensing

## MECHANICAL SPECIFICATIONS

Parameter	Specification	Notes
Dimensions	200 x 106 x 28 mm	Excluding connectors
Weight	-	
RF Connectors In/Out	SMA female / Type-N Female	
DC Power / Interface Connector	9-Pin D-Sub	Pin assignment table
Cooling	External Heatsink	Forced air required

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## D-SUB CONNECTOR PIN ASSIGNMENT

Pin	Function	Description
1	VDD	50VDC
2	N/A	N/A
3	SHUTDOWN	Amplifier Enable: TTL "Low" or Open Amplifier Disable: TTL "High" (3.3V logic)
4	TEMP SENSOR	$V_T @ 10\text{mV}/^\circ\text{C} + 500\text{mV Typ}$ (Range $-10^\circ\text{C}$ to $+85^\circ\text{C}$ / 0 to 3.3V)
5	VSWR alarm	VSWR tripped = TTL "High" (No latch / 3.3V / $P_{REV} = 40\text{W}$ ) Normal Operation = TTL "Low"
6, 7	VDD	50VDC
8, 9	GND	Ground

## OUTLINE DRAWING

